

**REMARKS:**

Claims 1-3 are in the case and presented for consideration.

For the reasons that follow, Applicants believe all of the claims are in condition for allowance.

**Objection to Abstract**

In response to Examiner's objection to the form of the abstract, Applicants have amended the abstract to remove phrases which may be implied, such as "[t]he application concerns" and "[t]he method is."

**Amendment to Claims**

Applicants have made minor formalistic amendments to Claims 1-3.

**Rejection under 35 U.S.C. § 103(a)**

Claims 1-3 have been rejected under 35 U.S.C. § 103 as being anticipated by U.S. Patent 5,030,662 to Banerjie (hereinafter "Banerjie") at Abstract, Claims, and col. 1, ll. 5-50, col. 2, ll. 58-69, and col. 3, ll. 31-39, in view of U.S. Patent 5,789,470 to Herbst et al. (hereinafter "Herbst et al.") at col. 20, ll. 6-12 and Claim 9.

**Obviousness analysis in accordance with *Graham v. John Deere* approach:**

*Graham v. John Deere*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966) outlined the approach that must be taken when determining whether an invention is obvious under 35 U.S.C. § 103(a).

In *Graham*, the Court stated that a patent may not be obtained if the subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art, and emphasized that non-obviousness must be determined in the light of inquiry, not quality (*supra* at page 467). In accordance with *Graham*, these inquiries must be made in determining whether an invention is obvious:

- (1) The scope and content of the prior art are to be determined.
- (2) The differences between the prior art and the claims at issue are to be ascertained.
- (3) The level of ordinary skill in the pertinent art resolved.
- (4) Objective evidence relevant to the issue of obviousness.

The Applicants now set forth their analysis of obviousness in view of the requirements of *Graham v. John Deere* and the Office Action issued by the Examiner.

**Scope and content of the prior art:**

Banerjie describes final construction materials from recycled polyolefins comprising: (a) an essentially polyolefinic polymer matrix; (b) a compatibilizer or reactive component; (c) an impact modifier; (d) a reinforcing agent with or without a coupling agent; and (e) optionally, a foaming agent. This final construction is constructed from recycled polymer containing not less than 80% polyolefins. See col. 1, ll. 42-60.

Herbst et al. teaches stabilized recycled plastics to which a linear sterically hindered amine is additionally added. See col. 17, ll. 5-10; see also Claim 8 and Claim 9.

**Applicant's invention:**

The present application claims a method of recycling commingled plastics waste containing min. 30 wt. % of polyolefins to tough thermoplastic material, the method comprising compatibilizing polymer components of commingled plastics waste by an admixture of 2-15 wt. % of an ethylene--propylene copolymer (i) or a styrene--butadiene block copolymer (ii) or a combination of an ethylene--propylene copolymer (i) and a styrene--butadiene copolymer (ii) in any weight ratio together, with 0.1-2.5 wt. % of a secondary aromatic amine (iii) and by subsequent melt processing of the mixture.

**Differences between the prior art and claims at issue:**

Unlike Banerjie the present application claims a method of recycling plastics waste that contain from 30% polyolefins versus the not less than 80% polyolefins in the final construction taught by Banerjie. Thus, the necessary amount of polyolefins is notably lower in the method of Claims 1-3 in comparison with the final construction taught by Banerjie. Additionally, the other compounds that comprise the final construction taught by Banerjie are different from the other compounds that are used in the method of Claims 1-3.

Further, comparing the claimed invention to Herbst et al., a secondary aromatic amine must always be present and in a concrete amount in the method claimed. In contrast, in Herbst et al., the linear sterically hindered amine is additionally added to the stabilized recycled plastics.

Also, the cited references, individually or in combination, contain absolutely no teaching of the use of a secondary aromatic amine in the compatibilization of components of plastics waste. Banerjie makes no mention of any type of amine whatsoever. Moreover, there is no mention of aromatic amines in Herbst et al.

Additionally, the present claimed invention is directed to a method of preparation of recycled plastics, whereas Banerjie and Herbst et al. describe the composition of recycled plastics.

**Person of ordinary skill in the art:**

Ascertaining the level of ordinary skill in the art at the time Applicants discovered their process is impractical in an *ex parte* proceeding since neither the Examiner nor the Applicants have survey evidence related to the qualifications of the technical people working in this field, or the testimony of an expert witness familiar with the qualifications of the technical people working in this field. In view of this, Applicants submit that the only

facts of record pertaining to the level of skill in the art are found within the prior art of record.

Applicants further submit, based upon their review of the prior art of record and the prior art in this field related to recycling of commingled plastics waste, the art is crowded and advancements in the art are incremental. In Applicant's view, deriving inventions in this field is like looking for the proverbial "needle in the haystack."

**Reasons Applicant's invention was not obvious to one of ordinary skill in the art at the time the invention was discovered:**

When considering whether Applicant's claimed invention is obvious, Applicants ask the Examiner to recognize the danger of employing "hindsight" in her analysis, particularly in a field where the art is crowded and improvements in the technology are incremental. This danger is inherent in the examination process since the Examiner knows what the invention is when she determines whether Applicants' invention is obvious. On the other hand, the only information Applicants have at the time of their discovery are the teachings of the prior art, so the inquiry related to obviousness must focus on the content of what the prior art teaches and suggests to the person of ordinary skill in the art at the time the invention was made. In this regard, Applicants hope that the Examiner will keep in mind the following comments excerpted from *In re Kotzab*, 55 U.S.P.Q. 2d 1313 (Fed. Cir. 2000) at page 1317:

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.* (quoting *W.L. Gore & Assocs., Inc., v Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303,313 (Fed. Cir. 1983)).

Now considering the context in which Applicants derived their invention, Applicants were trying to solve a problem related to recycling of commingled plastics waste, which was to develop a new and non-obvious method for compatibilizing polymer components of commingled plastics waste.

Thus, Claims 1-3 are patentably distinct over Banerjie in view of Herbst et al.

### **Conclusion**

Accordingly, the Applicants believe that Claims 1-3 are now in condition for allowance and favorable action is respectfully requested. No new matter has been added. Should there be any issues that have not been addressed to the Examiner's satisfaction, Applicants invite the Examiner to contact the undersigned attorney.

If any fees are due in connection with this response, please charge such fees to Deposit Account No. 14-1431.

Respectfully submitted,

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